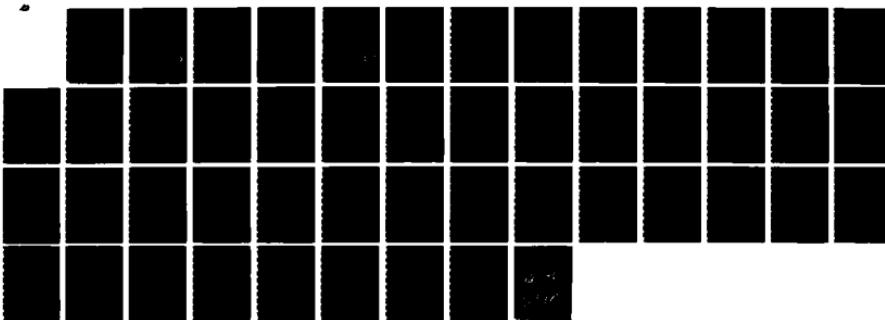
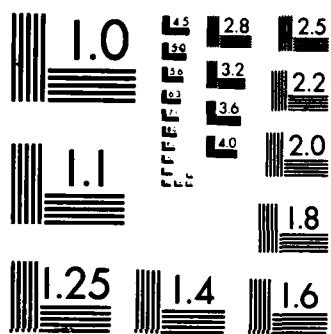


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Air Interdiction:
Will It Support AirLand Battle?

by

Major William C. Bielefeld
Air Defense Artillery

School of Advanced Military Studies
U.S. Army Command and General Staff College
Fort Leavenworth, Kansas

16 May 1986

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ABSTRACT

AIR INTERDICTION: WILL IT SUPPORT AIRLAND BATTLE?, by Major William C. Bielefeld, USA, 45 pages.

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SECTION 1

INTRODUCTION

The US Air Force cites the lessons learned from the North African Campaign of 1942-1943, the first major combat operation conducted by American forces in World War II, as the rationale for its current doctrine.¹ At the start of the campaign, air units were attached to ground commanders to support land operations. This inhibited the Army Air Force's ability to concentrate combat power rapidly at the most critical place and time. The Air Force viewed this decentralization of air power as a major cause of the problems encountered by the Americans in North Africa, directly contributing to the initial failure of the campaign. The Army Air Force changed its method of operation and doctrine because of the experience in North Africa.

The doctrine promulgated prior to 1942 was blamed for the failure of the Army Air Force in North Africa. Air superiority was not achieved because command of air units was decentralized.² Aircraft in some areas were idle while other areas required additional air support that could have been provided by commanders with less critical missions. The decentralized command structure of the Army Air Force did not facilitate shifting assets to where they were needed.

After the battle of the Kasserine Pass, the Army Air Force changed its method of operation. Subsequent operations

were based on British examples. Control of air assets was vested in a single air component commander, responsible to the theater commander, and co-equal to the land component commander. The Air Force's doctrinal priorities were defined as first gaining air superiority, and then providing support to ground forces.³ This doctrine proved successful in the following European campaign.

The Problem

The US Army and the US Air Force have developed their respective doctrines. Each recognizes the joint nature of warfare and the interdependence of the services in conducting war. The Army and Air Force have gone as far as to agree to use Airland Battle as a common reference in developing joint procedures, but the Air Force is adamant in declaring that AirLand Battle is not its doctrine.

The Air Force views its doctrine as a common reference point for the proper use of air forces in combat.⁴ In much the same manner, the Army views its doctrine as the foundation for employment of ground forces in combat. However, there is no foundation of joint doctrine upon which the services build their doctrines. The lack of unified direction in establishing doctrine could lead to problems between the interdependent services in future conflicts. One aspect of that

interdependence, air interdiction doctrine, is examined in this paper.

FM 100-5, Operations is the Army's basic doctrinal manual. It describes how the Army intends to fight the next war. The US Army published its latest version of FM 100-5 in May 1986. FM 100-5 is revolutionary in that it radically changes how the Army views combat operations. The Army emphasizes the joint nature of future campaigns and battles by naming its doctrine AirLand Battle.

AirLand Battle doctrine recognizes that war is all encompassing and is executed at different levels. The levels of war are military strategy, operational art, and tactics. Military strategy involves the highest policy decisions of the nation and establishes the objectives for theaters of war and theaters of operations. The operational art is the bridge between military strategy and tactics. It deals with the design, organization, and conduct of campaigns and major operations within a theater to attain strategic goals. The operational art is identifying the enemy's center-of-gravity, and massing sufficient combat power against it to gain decisive results. The operational art ties the desired ends to the available means and achieves success by proper sequencing of the supporting combat activities by all services. Tactics

is the application of combat power to win battles and engagements⁵.

AirLand Battle doctrine concentrates on generating and applying combat power at the operational and tactical level. The key is seizing the initiative by fast decisive action to throw the enemy off balance and pressing the advantage before the enemy recovers. "The object of all operations is to impose our will upon the enemy--to achieve our purposes."⁶ AirLand battle doctrine is based on military theory and actual military experience. The basic tenets are agility, initiative, depth and synchronization, which are emphasized in their multi-service aspect as well as unilaterally.

Synchronization of combat activities by all services is fundamental to achieving success at the operational level of war. FM 100-5 states, "At the operational level, two major operations are synchronized if the first, by attracting the bulk of enemy forces, uncovers a key objective for decisive attack by the second."⁷ Air and land operations must complement each other. Synergistic application of the elements of combat power and unity of effort lead to ultimate victory. Air interdiction operations help isolate the battlefield by delaying and disrupting follow-on forces, so engaged forces can be decisively defeated before their combat power is significantly enhanced by reserves and supplies. This type of

joint effort is required for operational success on future battlefields.

AFM 1-1 Basic Aerospace Doctrine of the United States Air Force contains the basic doctrine for employment of the US Air Force. AFM 1-1 states that land, naval, and aerospace forces each have certain intrinsic capabilities, which are integrated and coordinated to achieve the primary objective. The basic objective of aerospace forces is to win the aerospace battle and to take decisive actions against the enemy's war fighting capacity.⁸

Air interdiction is the aspect of US Air Force doctrine which has the greatest impact on the ground campaign. The air interdiction campaign is conducted by the air commander to isolate the close-in battlefield from enemy resupply and reinforcement. Air interdiction restricts the enemy's ability to maneuver, causes him to consume ammunition and equipment at increased rates, and creates opportunities for friendly ground forces to exploit. A successful air interdiction campaign will allow friendly forces to seize the initiative while disrupting enemy plans and actions.

Battlefield air interdiction is a subset of air interdiction. The technical difference between air interdiction and battlefield air interdiction is in the effect on the current battle. Battlefield air interdiction is defined as that part of air interdiction which has a near term effect on friendly land forces. Air interdiction is conducted by the

air commander and can be conducted as an independent air effort, although coordination with the ground commander is recommended. Battlefield air interdiction, on the other hand, requires close coordination between the air and land component commanders during planning, but in execution is totally controlled by the air commander.⁹

AirLand Battle doctrine calls for synchronized ground, air, and sea efforts to strike the enemy throughout the theater of operations. The Army and the Air Force do not seem to have a consensus on the operational use of air power. AirLand Battle doctrine stresses extensive air support to isolate the battlefield, while Air Force doctrine emphasizes counterair operations and strategic operations against the enemy's war fighting capability before assets can be spared for air interdiction. The Air Force is fiercely defensive of its role as an independent service, unwilling to subordinate itself to any but the highest commanders in a theater. This doctrinal independence could lead to breakdown of synchronization at the operational level risking the entire theater campaign.

Purpose

Dr. I. B. Holley Jr. states the following about doctrine,

What is doctrine? Simply this: doctrine is officially approved prescriptions of the best way to do a job. Doctrine is, or should be the product of experience. Doctrine is what experience has shown usually works best.¹⁰

In a Memorandum of Understanding, the US Air Force and the US Army agreed to use AirLand Battle doctrine "in joint

tactical training and field exercises based on AirLand Battle doctrine.¹¹ Joint concepts and procedures have been developed for incorporating doctrinal statements made in Army and Air Force manuals.¹² The purpose of this paper is to examine current US Army and US Air Force doctrine and procedures for the employment of air interdiction in support of ground operations to determine if current US Army and US Air Force doctrine is compatible and supports operational success on future battlefields.

The methodology of this paper is to examine the World War II air interdiction campaign conducted in the European Theater and compare the concepts and procedures used then to current practices. The Normandy campaign is used as a historical example of a successful air interdiction campaign in support of ground operations. Based on analysis of the historical example and current thinking, conclusions and recommendations will be reached on the employment of air power in support of the AirLand Battle.

SECTION II

AIR INTERDICTION IN NORMANDY

The combined American and British invasion of France on 6 June 1944, marked the beginning of the end of World War II in Europe. Lessons learned in North Africa, Sicily, and Italy had been incorporated in the doctrine and procedures of the American forces in Europe. The air interdiction campaign conducted in support of the Normandy campaign was effective in isolating the battlefield and was a key element in the subsequent breakout from the beachhead.

After action reviews based on German and Allied accounts reveal that Allied air attacks successfully isolated the beachhead. Air attacks on the German transportation system and formations denied the Germans the ability to shift their forces. Formations that were moving or attempting to counter-attack the Allied lodgment were hounded mercilessly. The major part of the German armored reserve in France was destroyed as it attempted to move from assembly areas near Paris to Normandy. The Germans faced a continuous struggle against this hindrance to their freedom of maneuver and logistic shortages caused by the destruction of the rail and road system in their rear area.¹³

The allied air campaign in Normandy was a decisive element in the final victory. Lessons learned from this campaign are useful in analyzing today's doctrine for air interdiction

at the operational level. In this section, the 1944 doctrine for employment of air power and the organization and conduct of the Normandy air campaign are examined for applicability to air support of AirLand Battle.

1944 Doctrine

FM 100-20 Command and Employment of Air Power, dated 21 July 1943, prescribed the doctrine for employing American air forces during the later campaigns of World War II. This manual prescribed a radical departure from the previous relationships between ground and air forces.¹⁴ The thesis of the 1943 edition of FM 100-20 was that "land power and air power are co-equal and interdependent forces; neither is an auxiliary of the other."¹⁵ Command of air forces was centralized and exercised through the air force commander. It was felt that centralized command was the only way to take advantage of the inherent flexibility of air power, therefore FM 100-20 decreed that there would be separate ground and air component commanders under a superior commander. Air forces were not to be attached to ground forces except when the ground forces were operating independently or were isolated by geography.¹⁶

FM 100-20 assigned basic tasks to combat aviation. The first task was to destroy enemy aircraft and to deny enemy aircraft the use of their bases. Combat aviation was to operate against enemy land and sea forces and conduct offensive operations against enemy economic and military sources of strength.¹⁷ The missions and priorities for the employment of

air power were counter air operations, then air interdiction, and finally close air support as follows:

First priority.-To gain the necessary degree of air superiority. This will be accomplished by attacks against aircraft in the air and on the ground, and against those enemy installations which he requires for the application of air power.

Second priority.-To prevent the movement of hostile troops and supplies into the theater of operations or within the theater.

Third priority.-To participate in a combined effort of the air and ground forces in the battle area, to gain objectives on the immediate front of the ground forces.¹⁸

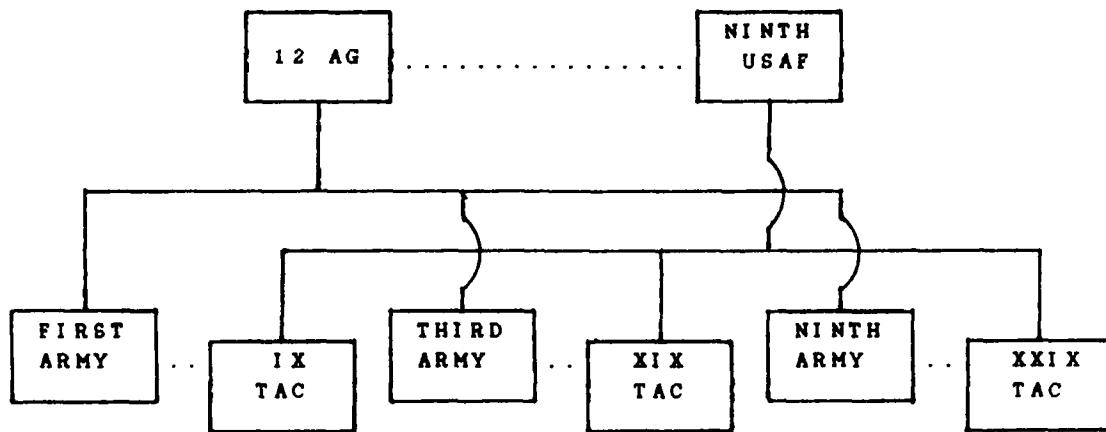
The doctrine prescribed in FM 100-20 significantly enhanced the Army Air Force's contribution at the operational level. The priority to air superiority benefited both air and land operations. Without air superiority, an air interdiction campaign would have proven difficult if not impossible, and with air superiority the ground forces were able to maneuver with little fear from aerial attack. By prioritizing the isolation of the battlefield over close support to ground forces in contact, the Army Air Force was able to reduce the enemy's options. This caused the enemy to react to friendly actions rather than taking the initiative themselves. It is important to note that the two significant counterattacks staged by the Germans after the Normandy invasion, Mortain and the Ardennes, were planned for periods of reduced visibility to negate Allied air superiority. Air power contributed to the defeat of both attacks when the weather improved. By 1944, the Army Air Force's doctrine was refined and supported operational

success. Today, when much talk revolves around winning the first battle of the next war, there may not be time to refine doctrine after the war starts. The doctrine developed and implemented in peacetime has to be right, disseminated, and understood to insure victory in that first battle.

Organization

The European Theater air force organization was based on the principle of centralized direction of the air campaign. The organization changed as the theater matured and more forces were introduced into the theater. Direction of theater air force operations was vested in the Deputy Supreme Commander, Air Chief Marshal Sir Arthur Tedder. The Theater Air Component Commander was Air Marshal Leigh-Mallory, who commanded the Allied Expeditionary Air Forces (AEAF). Under the AEAF were the Ninth US Air Force and the Second British Tactical Air Force.¹⁹ The Second British Tactical Air Force fought with the 21st Army Group, while the Ninth US Air Force, commanded by Major General Lewis H. Brereton, fought with the 12th Army Group. Each US Army was associated with a Tactical Air Command. The IX Tactical Air Command cooperated with the First Army. As more Army Headquarters were created, Tactical Air Commands were created as partnership air forces. The XIX Tactical Air Command cooperated with the Third Army, while the XXIX Tactical Air Command was associated with the Ninth Army. This relationship of an air force command with an army

command at Army, Army Group, and Theater allowed for a unity of effort that had a direct effect on operations.



Command: _____
Coordination:

Support Relationship of the American Air and Ground Forces
European Theater 1944

Figure 1

The basis for the Air-Ground cooperation system was a continuous exchange of information between the services. Headquarters of air and ground forces were located together, allowing commanders and staffs an orderly flow of information and the ability to synchronize their operations.²⁰ Army and air force cooperation had evolved to the point where IX Tactical Air Command and First Army created a Combined operations center to link air and ground elements. The A-3 Combat Operations Officer and the G-3 sat side by side in the Combined Operations Center²¹ Similar facilities existed in the other Armies and the Army Group. The G-3 (Air) and G-2 (Air) worked

alongside air personnel to synchronize the air and ground efforts.²²

The Army/Air Force command organization developed in the Normandy campaign allowed operational level synchronization of combat power from both services. The Armies and Army Groups were the ground headquarters conducting the operational level of war. Co-locating air and ground staffs and commanders at these levels allowed a synchronized effort in executing the campaign plan. Current procedures, where headquarters are not required to be co-located, will not allow this degree of synchronization and may prove detrimental to operational success in future conflicts.

Air Campaign

The air campaign in support of OVERLORD followed the doctrine of FM 100-20. Air superiority was gained first. This allowed freedom of maneuver not only to the ground forces, but also to the air forces conducting interdiction and close combat support missions. The air superiority campaign started long before the Normandy invasion and proved decisive by June of 1944. However, the Allies estimated that the Germans could still generate 600-700 sorties a day in Normandy, while in fact, they were able to generate only about 200 sorties a day because of the effective counter air campaign conducted by the Allies.²³

The Allies agreed to their air campaign for Europe at the Casablanca Conference in January 1943. The Combined Chiefs of

Staff agreed to a bomber offensive with the objective of destroying the German military, industrial, and economic systems. Daylight attacks were initiated by the Eighth Air Force to support this objective, but they proved too costly until something was done about German air defense aircraft. An all-out offensive against the German fighter force was directed in May 1943. Emphasis was placed on attacking the aircraft industry as well as defeating the fighters in the air.²⁴ Air Chief Marshal Sir Arthur Tedder pointed out that the most effective air defense is to stop air attack at its source.²⁵ This is what the Allies did in the air superiority campaign against Germany.

By 1944, the fielding of a superior fighter, the P-51 Mustang, and bombing of German fighter production facilities gave the Allies virtual air superiority over the Germans.²⁶ The week of 20-26 February 1944 may have proved decisive in the air war in Europe. The Allies conducted an all-out attack against the German aircraft industry. As a result of that attack the Luftwaffe was reduced to an air defense mission over Germany. The Germans could no longer challenge Allied aircraft at will, but instead had to conserve their air assets to respond only when something critical was in peril. The Luftwaffe would venture into battle only when they believed they held local air superiority, or when extremely important targets were under attack.²⁷ The air superiority achieved proved decisive.²⁸ It made the air interdiction campaign

supporting the Normandy invasion possible and gave the Allied forces an unprecedented freedom to maneuver without fear of air attack.

The interdiction campaign in support of the invasion of France was conducted in three phases. Prior to D-Day, interdiction operations were conducted in a manner designed to conceal the intended beachhead. After D-Day targets were selected to isolate the Normandy beachhead and to delay and disrupt movement of enemy forces into the battle zone. This successful interdiction campaign greatly contributed to the Allied lodgment in Normandy and is a potential prototype for air interdiction in today's AirLand Battle doctrine.

The Phase One interdiction campaign was conducted from D-90 to D-Day.²⁹ The initial targets in Phase One were key rail centers in France and the Low Countries. The goal was to isolate the invasion zone by destroying the rail centers required for movement of German supplies and reinforcements. (The rail targets presented an opportunity to do this at a relatively small cost in the tonnage of bombs required for the mission.)³⁰ The remainder of the Phase One interdiction campaign was designed to deceive the Germans. Two interdiction lines were developed. One line was created along the Seine River by destroying bridges. The other line was created in the same manner along the Albert Canal and Meuse River. This campaign set the stage for the invasion at Normandy, deceived the Germans into believing the the invasion would be at

Calais, and bottled up the bulk of the German forces between the two interdiction lines.³¹

The Phase Two interdiction operation lasted from D-Day to D+55. The objective in Phase Two was to seal off the beachhead from German reinforcement by completely isolating the battle area. Another interdiction line was established along the Loire River, which, in conjunction with the Phase One interdiction lines, completed the isolation of the beachhead. German attempts to move reserves and supplies into the battle area were subject to constant fighter and bomber attacks. Therefore the Allies were able to build up their forces on the beachhead much faster than the Germans were able to respond. This interdiction helped facilitate an eventual Allied breakthrough by D+31³²

Phase Three operation were from D+55 on. The air forces continued to operate in cooperation with the ground forces to isolate the battlefields and to hinder German withdrawal from the Falaise pocket and across the Seine River.³³

The interdiction campaign in Normandy was a major factor in the operational success of the allied forces, leading to their final victory a year later. The Phase One and Two operations had a tremendous impact. Rail traffic in France declined 60%. In the Seine-Albert Canal area 75% of rail traffic was stopped and in the invasion zone 30% of rail traffic was halted. After D-Day when operations in the invasion zone were no longer limited by the deception plan, interdiction

halted more than 75% of rail traffic.³⁴ On 7 June 1944, Allied aircraft kept up an incessant bombardment of rail lines and motorized columns. "One German division lost more than 200 vehicles to RAF fighter-bombers within a short period, near Alecon north of Le Mans."³⁵ The major part of the German armored reserve in France was destroyed as it attempted to move from the Paris area to Normandy.³⁶

Lessons

Air superiority and air interdiction are interdependent. The Normandy air interdiction campaign could not have succeeded without the air superiority campaign that preceded it. Army planners are often critical of the priority the Air Force gives to air superiority. However, it must be remembered that local air superiority is essential for a successful air interdiction operation. Air superiority has an effect for ground operations far beyond expediting the air interdiction campaign. The Germans' lack of air superiority put them at the mercy of Allied tactical air. They were denied freedom to maneuver their forces to their best advantage. Allied air interdiction delayed and disrupted German reserves and supplies. An American force operating without air superiority would face similar problems. Air superiority complements the interdiction campaign and is required for successful ground support operations. Once achieved, air superiority frees aircraft for missions with more visible impact on the ground forces. Any force with air superiority has the ability to

maneuver without fear of enemy air interdiction. The operational commander with air superiority has a decisive advantage in the conduct of his campaigns and operations.

The US Army and US Air Force achieved unity of effort during Normandy and the subsequent operations of World War II by co-locating operational headquarters. Army and Air Force commanders and staffs ate at the same mess and were in constant contact. A synchronized effort was achieved by this continuous communication. This contrasts with today's coordination system described in the next section. Coordination between the Army and Air Force is now achieved by liaison and component representatives. Operational level commanders rarely meet with their counterparts in the other service. Principal staff officers meet even less often. The bureaucracy of today's system and the separation of the operational air and ground staffs is bound to lead to disunity, especially when communications are degraded in a hostile environment. Lost is the synchronization and agility achieved during Normandy when headquarters were side-by-side and staffs worked closely with their counterparts from the other service.

The Air Force and Army had two years to get their doctrine right before the Normandy campaign. By Normandy, the lessons learned in North Africa and the Mediterranean theater had been incorporated into the air doctrine of FM 100-20. In future conflicts, the armed services may not have the time to evolve the correct doctrine and procedures after hostilities

commence. The Army and the Air Force must insure that their doctrine is correct before war breaks out and that its implementation is sound and meets the intent of the doctrine. No longer can the United States expect the luxury of going to war, gaining experience, and then developing the doctrine and procedures to win. Doctrine and procedures must be refined before the conflict commences to insure the American armed forces are ready to fight in a unified and victorious effort.

SECTION III

CURRENT PROCEDURES

AFM 1-1 Basic Aerospace Doctrine of the United States Air Force prescribes the current doctrine for the employment of air forces. The basic air doctrine is similar to that developed by the end of World War II. Gaining air superiority is the top priority in the employment of air forces. AFM 1-1 states that air superiority is necessary to gain freedom of action, tactical flexibility, and expedite effective strategic attacks.³⁷ All other air force missions are contingent upon the ability to achieve local air superiority.

Air Superiority involves more than just fighter aircraft. Counter air operations include offensive counter air, suppression of enemy air defenses, and defensive counter air.³⁸ These missions seem to compete with the air interdiction and close air support missions that more directly support ground operations. However, air superiority is essential to the success of all other air missions, as well as to the ability of the ground forces to maneuver. Although FM 100-5 recognizes the requirement for control of the air environment,³⁹ the Army and Air Force come into conflict over air superiority missions because these mission siphon off aircraft that could be devoted to air interdiction and close air support. These missions have a more visible impact on ground operations, and tend to become the primary focus of ground planners. It is

necessary for members of both services to understand the doctrine of the other and how that doctrine fits into the campaign. Unity of effort must be achieved and all forces employed to the greatest benefit of the overall effort.

Joint Doctrine

FM 100-5 and AFM 1-1 recognize the joint nature of future combat. FM 100-5 states, "AirLand Battle doctrine is predicated on the assumption of routine cooperation of Army units with other services in joint operations."⁴⁰ AFM 1-1 states that land, naval, and air forces are interdependent, each with a vital role in accomplishing military objectives.⁴¹ However, there is no unity of doctrine between the services except by joint agreement. This lack of an overall doctrine is systematic in the regulations that govern the joint employment of the services. JCS Pub 2, Unified Action Armed Forces (UNAAF) states that doctrine is a service responsibility. The proponency for joint doctrine can be vested in one service, but for the most part joint doctrine will be resolved by negotiation and agreement. In cases where agreement cannot be reached, the responsible service chief forwards the proposal to the Joint Chiefs of Staff for resolution.⁴² This is hardly a system designed to achieve the first principle expounded in JCS Pub 2, unity of effort.⁴³

To overcome this lack of joint doctrine the Army and Air Force have moved to achieve an agreement on a number of joint initiatives. One of these initiatives reached fruition by the

signing in November 1984 of a Joint Service Agreement for the Joint Attack of the Second Echelon (J-SAK).⁴⁴ The purpose of the J-SAK Agreement is to provide guidelines for "the employment of Army and Air Force interdiction assets to divert, disrupt, delay, or destroy enemy second echelon forces."⁴⁵ Second echelon forces are defined as any forces not directly engaged at the front.⁴⁶ In effect, J-SAK is designed to isolate the battlefield in the same manner as the Army Air Force interdiction campaign did at Normandy in 1944.

On 31 December 1984, shortly after the promulgation of the Joint Service Agreement, the United States Army Training and Doctrine Command (TRADOC), the United States Air Force Tactical Air Command, and the United States Readiness Command published General Operating Procedures for Joint Attack of the Second Echelon based on the Joint Operational Concept for Joint Attack of the Second Echelon that were published on 13 December 1982. This is the joint doctrine that currently drives the interdiction effort that will support AirLand Battle.

J-SAK is conditioned by the historical Air Force thesis of co-equal ground and air forces working in cooperation under a Joint Force Commander (JFC). Land and air component commanders are required to work together to achieve the objectives of the Joint Force Commander. Attack of enemy second echelons will be coordinated by the components. The only required involvement of the Joint Force Commander is when the land and

air component commander cannot concur.⁴⁷ Inherent in the basic process underlying J-SAK are time consuming procedures that do not insure agility in conducting operations.

J-SAK requires continuous consultation between the land component commander (LCC) and the air component commander (ACC). Each advises the other of his operations and they consult on the air apportionment recommendation and the availability of air assets for battlefield air interdiction (BAI). In the context of J-SAK the land component commander is considered a field army commander with several subordinate corps. The land component commander's responsibilities include prioritizing tactical air support for subordinate corps, nominating targets for air interdiction, and establishing a Battlefield Coordination Element at the Air Force Tactical Control Element. The air component commander's responsibilities include developing the air apportionment recommendation and submitting it to the Joint Force Commander for approval, and the planning and execution of the interdiction campaign.⁴⁸ The air component commander consults with the land component commander in developing his apportionment recommendation. The Joint Force Commander makes the apportionment decision based on the air component commander's recommendation, which then becomes the basis for executing the tactical air effort.⁴⁹ The air com-

ponent commander allocates aircraft to each mission based on the Joint Force Commander's apportionment decision.

Organization

The organization developed to coordinate J-SAK is the Tactical Air Control Center (TACC) - Battlefield Coordination Element (BCE) interface. The Tactical Air Control Center is the combat operations center of the air component commander. The Battlefield Coordination Element is the land component commander's representative at the Tactical Air Control Center. The land component commander talks to the air component commander through the Battlefield Coordination Element which processes the land component commander's requests for tactical air support, keeps the air component commander informed on the land battle, and exchanges intelligence and operational data between the components.⁵⁰

"The Battlefield Coordination Element is organized into six sections: plans, operations, intelligence, fusion, air defense artillery and Army airspace management, and air-lift."⁵¹ These sections are co-located with their respective air component counterparts. Ground liaison officers (GLO) and air reconnaissance liaison officers (ARLO) assigned to the tactical air force wings are also assigned to the Battlefield Coordination Element.⁵² The Battlefield Coordination Element is a positive step towards facilitating coordination of the land and air battles. However, its distance from the land component commander breeds an inherent time delay. Co-locat-

tion of headquarters and an intermingling of staffs along the World War II model would allow greater synchronization of the theater campaign.

Procedures

The Air Tasking Order (ATO) is the means by which tactical air support is implemented. The Air Tasking Order is a detailed mission tasking provided to tactical air force units. It covers a 24 hour period and is the end result of a detailed planning process. The planning process is continuous. The Air Tasking Orders for a number of days are being developed at any given time.⁵³

Each Air Tasking Order is the result of consultation between the land component commander and the air component commander, their apportionment recommendation to the Joint Force Commander, and his apportionment decision. Outlined below is an example of the planning cycle, as it relates to air interdiction, of a single Air Tasking Order as described in the *General Operating Procedures for Joint Attack of the Second Echelon*:

Approximate Time Prior to ATO Effective Period	Event
72 + hours	<ul style="list-style-type: none">- JFC issues concept.
	<ul style="list-style-type: none">- Components plan individual operations and conduct joint planning.
	<ul style="list-style-type: none">- BCE forwards BAI forecast to LCC.

72 hours	<ul style="list-style-type: none"> - BCE provides corps with LCC's BAI priority.
72-48 hours	<ul style="list-style-type: none"> - LCC and ACC coordinate projected tactical air support.
	<ul style="list-style-type: none"> - BCE updates corps on expected BAI effort.
48 hours	<ul style="list-style-type: none"> - LCC and ACC consult on apportionment recommendation.
36 hours	<ul style="list-style-type: none"> - JFC approves or modifies apportionment.
36-30 hours	<ul style="list-style-type: none"> - LCC confirms his priorities for tactical air support.
	<ul style="list-style-type: none"> - TACC allocates missions.
30 hours	<ul style="list-style-type: none"> - Corps provide BCE with initial AI and prioritized BAI target inputs.
	<ul style="list-style-type: none"> - BCE provides Corps target inputs to TACC.
	<ul style="list-style-type: none"> - TACC refines tactical air planning based on target inputs.
24 hours	<ul style="list-style-type: none"> - Divisions submit BAI targets to Corps.
	<ul style="list-style-type: none"> - Corps provides BCE with updated targets and alternate targets.
24-18 hours	<ul style="list-style-type: none"> - Division and Corps refine targets and pass information to BCE.
18 hours	<ul style="list-style-type: none"> - Corps provide BCE with AI nominations and prioritized BAI target lists. BCE provides information to TACC.
12 hours	<ul style="list-style-type: none"> - TACC publishes the ATO.

Less than 12 hours

- Targets are continually updated. TACC and air wings require approximately two hours prior to takeoff for mission planning.⁵⁴

The procedures require extensive coordination between the land component commander and the air component commander or their staffs. Since the Tactical Air Control Center and the land headquarters are not co-located, J-SAK procedures are heavily dependent on continuous and reliable communications. J-SAK procedures contrast with the system developed for mission requests in Normandy when headquarters were in closer contact. In the European Theater of World War II, planned missions were received by 1900 - 2400 hours for execution the next day. Any mission received after 2400 hours for execution that day was considered immediate. Immediate missions took precedence over planned missions under the assumption that if they could not wait for normal channels they had to be vital.⁵⁵ This system was based on trust and was more responsive than the J-SAK procedures of today.

SECTION IV

CONCLUSION

Current procedures for Army and Air Force cooperation do not support success at the operational level of war. The basic Air Force doctrine for air interdiction as defined in AFM 1-1 is compatible with AirLand Battle doctrine. However, J-SAK procedures are cumbersome and time consuming. AirLand Battle doctrine requires initiative, depth, synchronization, and agility. Air interdiction support to the operational level ground commander helps provide depth, but current procedures do not expedite agility, synchronization, and initiative.

Agility requires fast action to respond to situations faster than the enemy. The apportionment and allocation process of J-SAK are time consuming and less flexible than necessary. Army and Air Force commanders must work together in defeating the enemy. Both must understand the campaign plan and the commander's intent and take actions to implement it. Target nomination is fine in itself, but it is not enough to isolate enemy formations and resupply efforts. The air commander must understand the ground mission and be flexible enough to apply air power where it is most beneficial to operational success. A degree of trust and mutual confidence is required on the part of both Army and Air Force commanders to develop the agility necessary to carry out the air interdiction.

tion campaign based on mission type orders rather than the rigid procedures currently in vogue. Joint operations will not be agile enough until service commanders are working in harmony, with a single vision, to achieve operational success.

Initiative goes hand in hand with agility. Mission responsibility rather than individual target nominations will require the air force to exercise a great deal of initiative. If the mission is to stop an enemy armor column from entering the battle while ground forces are engaged with other enemy forces, that is the mission that should be given to the Air Force rather than a mission to take out a certain bridge at a certain location. The Air Force can determine how to best accomplish the mission based on its capabilities, using the minimum assets required.

Synchronization between the Army and Air Force is vital for operational success on the AirLand Battlefield. Air interdiction must be keyed to the ground operation. Both battlefield air interdiction with its near term effect and air interdiction must be keyed to the success of ground operations and the overall campaign. The Battlefield Coordination Element at the Tactical Air Control Center is the current method of insuring this synchronization. This system is not good enough and will not necessarily result in synchronized air-ground operations. Staffs should be co-located at operational level headquarters to insure synchronized operations. The corps of today is more like a World War II army than the

World War II corps. If the corps is the headquarters conducting the operational level of war, it should have an Air Force headquarters co-located with it just as the First Army did in Normandy. With their ability to rapidly transit the battlefield, air assets can be shifted among these air commands as the situation demands. This will insure that air assets are not wasted while allowing the operational level commander the ability to coordinate with an air commander who is right there.

In much the same light, the apportionment recommendation to the joint force commander should be made by his staff, based on the land and air component commanders' inputs, rather than the air component commander. Synchronized missions would then be given to both the air and land components. Immediate requests for interdiction would still have to be accomplished by service to service coordination. This command set up would prove more efficient than the current practice of requiring the Battlefield Coordination Element to negotiate support with the air component. Both the air and land components would then know what support to expect and plans could be made accordingly.

Finally, joint doctrine must be developed. A situation where each service is responsible for its own doctrine is incompatible with operational success on the battlefield. During peace, the services are allowed to live in their own worlds. Doctrine is developed based on the individual ser-

vices interpretation of theory and experience. A joint military doctrine does not exist upon which the services base their doctrine. FM 100-5 and AFM 1-1 are compatible but this is due to the farsightedness of select individuals in key positions in both service. To insure the future, joint operations must become the norm. No longer can each service go its own way and iron out differences when cooperation is required. There is a need for a joint military doctrine to insure that future revisions to the services' doctrines are compatible and synchronized.

ENDNOTES

¹ James A. Machos, "TACAIR Support for AirLand Battle," *Air University Review*, May-June 1984, pp. 17-18.

² William W. Momoyer, *Airpower in Three Wars* (Washington D.C.: United States Government Printing Office, 1978), p. 40.

³ *War Department Field Manual (FM) 100-20, Command and Employment of AirPower* (Washington D.C.: United States Government Printing Office, 21 July 1943), pp. 1-2.

⁴ *Air Force Manual (AFM) 1-1, Basic Aerospace Doctrine of the United States Air Force* (Washington D.C.: United States Government Printing Office, 16 March 1984), p. v.

⁵ *Field Manual (FM) 100-5, Operations (Prepublication Issue)* (Washington D.C.: Headquarters, Department of the Army, May 1986), pp. 2-1 - 2-5.

⁶ *Ibid.*, p. 2-13.

⁷ *Ibid.*, p 2-20.

⁸ AFM 1-1, p. 1-3.

⁹ *Ibid.*, pp. 3-3 - 3-4.

¹⁰ I. B. Holley Jr., "Of Saber Charges, Escort Fighters, and Spacecraft," *Air University Review*, September-October 1983, p. 4.

¹¹ Machos, p. 16.

¹² *Joint Service Agreement, USA/USAF Agreement for the Joint Attack of the Second Echelon (J-SAK)* (Washington D.C.: Headquarters, US Army/Headquarters, US Air Force, 28 November 1984), p. 2. This document will henceforth be referred to as *Joint Service Agreement, J-SAK*.

¹³ D. J. Alberts, *Deterrence in the 1980s: The Role of Conventional Air Power* Adelphi Paper No. 193 (London: The Institute for Strategic Studies, 1984), pp. 34-35.

¹⁴ Stephen T. Rippe, An Army and Air Force Issue: Principles and Procedures for AirLand Warfare, A Perspective of Operational Effectiveness on the Modern Battlefield Master of Military Art and Science Thesis (Fort Leavenworth, Kansas: United States Army Command and General Staff College, 1985) p. 19.

¹⁵ FM 100-20, p. 1.

¹⁶ Ibid., p. 2.

¹⁷ Ibid., p. 6.

¹⁸ Ibid., p. 10-11. The second priority mission is similar to air interdiction as described in AFM 1-1, while the third priority mission is similar to close air support.

¹⁹ Rippe, pp. 20-21.

²⁰ Omar N. Bradley and Air Effects Committee Group, Effect of Air Power on Military Operations: Western Europe (12th Army Group, 1945), p. 66.

²¹ John M Bond, Operation Cobra, AirLand Battle Doctrine, and Joint Attack of the Second Echelon Master of Military Art and Science Thesis (Fort Leavenworth, Kansas: United States Army Command and General Staff College, 1985), p. 26.

²² Bradley, p. 66

²³ Arthur William Tedder, Air Power in War (Westport, Connecticut: Greenwood Press, Publishers, 1975), p. 42.

²⁴ Gordon A Harrison, Cross-Channel Attack (Washington D.C.: Office of the Chief of Military History, United States Army, 1951), pp. 207-217.

²⁵ Tedder, p. 45.

²⁶ Russell F. Weigley, Eisenhower's Lieutenants: The Campaign of France and Germany 1944-1945 (Bloomington, Indiana: University Press, 1981), p. 57.

²⁷ United States Army Air Forces, Second Report of the Commanding General of the Army Air Forces to the Secretary of War (Washington D.C.: United States Government Printing Office, 1945), p. 8.

²⁸ Tedder, p. 45.

²⁹ United States Army Air Forces, Second Report of the Commanding General of the Army Air Forces to the Secretary of War, p. 11.

³⁰ Weigley, pp. 59-60.

³¹ United States Army Air Forces, Second Report of the Commanding General of the Army Air Forces to the Secretary of War, p. 12.

³² Ibid., p. 12.

³³ Ibid., p. 12.

³⁴ Harrison, p. 230.

³⁵ Janusz Piekalkiewicz, The Air War: 1939-1945 (Poole, Dorset: Blandford Press, 1985), p. 352.

³⁶ Alberts, pp. 34-35.

³⁷ AFM 1-1, pp. 2-10 -2-12.

³⁸ Ibid., p. 3-3.

³⁹ FM 100-5, p. 3-28.

⁴⁰ Ibid., p. 11-1.

⁴¹ AFM 1-1, p. 1-3.

⁴² JCS Publication 2, Unified Action Armed Forces (UNAAF) (Washington D.C.: United States Government Printing Office, 1 October 1974), pp. 8-9.

⁴³ JCS Pub 2, p. 6.

⁴⁴ Joint Service Agreement, J-SAK, p. 2.

⁴⁵ Ibid., p. 4.

⁴⁶ USREDCOM Pam 525-4, TRADOC Pam 525-16, TACP 50-26, Joint Operational Concept, Joint Attack of the Second Echelon (J-SAK), (Fort Monroe, Virginia: United States Army Training and Doctrine Command, 13 December 1982), p. 1-2.

⁴⁷ USREDCOM Pam 525-8, TRADOC Pam 525-45, TACP 50-29, General Procedures for Joint Attack of the Second Echelon (J-SAK), (Fort Monroe, Virginia: United States Army Training and Doctrine Command, 31 December 1984), p. 1-1.

⁴⁸ Ibid., pp. 2-3 - 2-5.

⁴⁹ Ibid., p. 2-7. The General Operating Procedures for J-
SAK describe air apportionment as "the determination and
assignment of the total expected air effort by percentage or
priority that should be devoted to the various tactical air
operations or geographic areas for a given time. Air
apportionment is based upon priorities established by the JFC
during consultation with the subordinate commanders and is
designed to insure optimum distribution of limited assets
which must perform a wide range of missions." The tactical
air effort is apportioned among air interdiction (which
includes battlefield air interdiction), counter air , close
air support, tactical surveillance and reconnaissance,
tactical airlift, and special operations.

⁵⁰ Ibid., p. 3-1.

⁵¹ Ibid., p. 3-2.

⁵² Ibid., p. 3-2.

⁵³ Ibid., p. 5-1.

⁵⁴ Ibid., pp. 5-2 - 5-12.

⁵⁵ Bond, pp. 27-28.

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